

## **WELCOME TO:**

- **Dr Michael Breadmore** who rejoined the School as an **ARC Australian Postdoctoral Fellow and part-time lecturer** on 3 May 2004. Michael completed his BSc(Hons) and PhD at UTas in April 2001 and went to the Biomedical Microchip Electrophoresis Laboratory at the University of Virginia (USA) where he worked on developing microchip technology for the rapid diagnosis of various diseases and infections. In June 2002, he moved to the Capillary Electrophoresis lab at the Institute of Clinical Pharmacology at the University of Bern (Switzerland) where he developed electrophoretic methods for therapeutic monitoring of drugs associated with the treatment of patients with impaired liver function. In Sept 2003, he moved again, accepting a position in London (UK), with an Imperial College London start-up company called deltaDOT to develop microfluidic electrophoresis chips compatible with their patented detection technology. Now he's come full circle back to UTas and apparently it has done nothing but rain since he touched down on 1st May 2004!
- **Prof Chris Easton** from Research School of Chemistry at Australian National University who is visiting the School from 9 May to 3 June as the **Tasmanian Alkaloids Visiting Lecturer**. Chris is involved in the Honours teaching program and will also give a School seminar on 26 May "Cyclodextrins - from Industrial Waste to Applications in Pharmacy, Catalysis and Microelectronics". During his stay Chris will visit Tasmanian Alkaloids and the Launceston campus. The School would also like to congratulate Prof Easton on his recent election as a Fellow of the Australian Academy of Science (FAA).
- **Alistair Frey** who joined the School as a PhD student under the supervision of Dir Michael Gardiner but until now has been based in Sydney. Alistair paid the School a brief visit in March/April last year and is now back in Hobart to continue his studies.
- **Dr Justin Gooding** from School of Chemistry at the University of New South Wales who has been visiting the School from 1 May to 22 May as the **Ecka Granules Australia Visiting Lecturer**. Justin has been involved in the Honours teaching program and has given two RACI seminars: one in Hobart 11 May "Developing Novel Sensors using Self-Assembled Monolayers" and the other in Launceston 18 May entitled "Peptide Modified Electrodes as a Versatile Approach to the Development of Sensor Arrays for the Detection of a Suite of Metals ". Justin also visited Ecka Granules at George Town whilst in the Launceston area.
- **Peter Molesworth**, an **international exchange student** from Warwick University, UK, who joined the School on 22 March and is working with Dr Jason Smith for about 5 months.
- **Fariborz Momenbeik** who is working with Professor Paul Haddad and the ACROSS Group as an **Honorary Associate** for six months. Fariborz, a PhD student from the University of Isfahan, Iran, and his wife, Nazanin, arrived on 10 March 2004.
- **Dr John O'Reilly** who rejoined the School as a **postdoctoral fellow with the ACROSS Group** on 26 April 2004. For the last 12 months John has been at the University of Waterloo, Ontario, Canada working as a postdoc in the laboratory of Professor Janusz Pawliszyn. John's research related to automation of solid-phase microextraction techniques. John completed his BSc(Hons) and PhD at the School in 2002.
- **Dr Anne Palmer** who joined the School on 3 May 2004 as a **postdoctoral fellow with ACROSS Group** and who also will be working together with the Australian Antarctic Division (Human Impacts) looking at various environmental issues. Anne obtained her PhD with IASOS in 2002 and for the next two years was an NCCR-Climate research fellow at the Paul Scherrer

Institute, Switzerland where she studied ice cores from the Swiss Alps with the aim of reconstructing past climate.

### ***FAREWELL TO:***

- **Dr Andreas Fischbach** who returned to the Technische Universität in München at the end of April after 3 months as a guest researcher with Dr Michael Gardiner's group.
- **Dr Milko Novic** who has been working with the ACROSS Group as a postdoctoral fellow since June last year. Milko will return to the National Institute of Chemistry, Ljubljana, Slovenia in early June.

### ***CONGRATULATIONS TO:***

- **Professor Paul Haddad** who has been elected as a **Fellow of the Australian Academy of Science (FAA)** for research in the field of analytical separation science, covering ion chromatography, capillary zone electrophoresis, capillary electrochromatography, and high-performance liquid chromatography, used especially for the separation of inorganic ions, metal complexes and low molecular weight organic species.
- **Professor Paul Haddad** who is the recipient of the **2003 Royal Society of Chemistry Award for Analytical Separation Methods** in recognition of his sustained contributions to the development of chromatography and electrophoresis, and in particular to their application to inorganic species. The award is to be presented at the Royal Academy in London on 6 July.
- **Dr Ian Grey** who, subsequent to his UTas Doctor of Science Award in 2003 (Chemnews 26 September 2003), was one of 6 winners of the Australian Academy of Technological Sciences and Engineering ATSE Clunies Ross Award 2004 for excellence in the application of science and technology for the economic, social or environmental benefit of Australia. Dr Ian Grey is a Chief Research Scientist at CSIRO Minerals in Victoria. Australia has a lot of sand much of it rich with titanium. Over the past 34 years Dr Grey has solved some of the mineral sand industry's toughest processing problems. Now he is finding new uses for titanium oxide for renewable production of hydrogen as the clean fuel of the future.

### ***CONFERENCES & FIELD TRIPS***

#### ***KRA305 BIOSYNTHESIS & FUNCTION OF NATURAL PRODUCTS FIELD TRIP By Martin Hitchman***

It was the second Sunday in March and curious onlookers may have blinked twice at the sight of the bright red University security car speeding around Dobson Road responding to an urgent call from **Dr Adrian Blackman** (Expedition leader). We had collected the bus but no matter how many times Adrian or Martin (Expedition technician and diving specialist) pressed the remote unlock button the station wagon WOULD NOT respond! We had been given the wrong keys! Apparently Sunday mornings are a 'bad time' for security firms. Eventually we realised that our security guard was too preoccupied doing high-speed laps of the campus to help! So we decided to go with plan B! Martin's faithful Ford Falcon (a stalwart companion on many a diving expedition) was hastily commissioned for the journey.



After a pep talk from Adrian and a roll-call, the 15 members of the expedition piled into the expedition vehicles and set off for Tasmania's sunny east coast. Alas, dark clouds loomed in the east, arrogantly defying the 'fine' weather forecast. However, the obligatory stop at Banjo's in Sorell rekindled our spirits and provided the necessary victuals for the adventure that lay ahead.



*Anemone*

Approximately 45 minutes later we hit our first port of call, Spring Beach, 5 minutes south of Orford. The light drizzle did not hinder the students who enthusiastically unpacked the supplies (organised by **Jarrold Coad**, the organic lab technician) and as it was low tide, went about collecting intertidal specimens.

The dive team was assembled when **Dr Christian Narkowicz** arrived (chauffeured by his wife, ex-chemistry student, Sheenagh). Protected by 7mm of Neoprene (and a spear!) the dive team (tethered floating dive flag in tow) braved the icy cold (and sometimes shark infested!) waters of Mercury Passage. While proceeding to

a maximum depth of 7m, many interesting animal and plant species were collected. Several large crayfish were sighted but alas, none managed to find their way into our catch bags!

Martin was the first out of the water battling the firmly entangled dive flag tow-line. Christian was not far behind barely avoiding the spines and huge mouth of an enormous hideous stargazer. Success! Both their catch bags were bulging with suitable quarry. Although the intermittent rain caused some problems for certain expedition members without rain coats (confound those weather forecasters!) sorting the catch yielded dozens of useful specimens including green, brown, and red seaweeds, soft corals, sponges, bryozoans, ascidians, echinoderms and molluscs to name a few.



*Caulerpa flexilis*



*Soft coral and sponge*

With marine samples organised it was off to Wielangta Forest Reserve to collect some terrestrial plants and have lunch. This patch of cool temperate rainforest lived up to its name (the rain bit) while the increase in altitude had an inversely proportional effect on the temperature (it was certainly cool!). Despite local climate and the dense foliage with patches of horizontal scrub it didn't take long for the intrepid students to battle (with a little help from Banjo's) their way through and collect the samples they desperately needed.

Despite the inclement weather the expedition was a resounding success as all members returned safely to Hobart with more than enough marine and terrestrial samples to last the next 3 months in the lab.

For more photos visit

<http://www.chem.utas.edu.au/staff/blackman/chem3/fld/trp04.htm>.

## ZEN AND THE ART OF QUANTUM CHEMISTRY

**Associate Professor Brian Yates** was an invited speaker at the inaugural "Asian and Pacific Computational and Theoretical Chemistry" (APACTC) conference held in Okazaki in Japan 12-16 May. The conference was very successful and was organised with elegant Japanese simplicity. The quality of the talks was high and I must admit to being blown away with the theoretical rigour and intellectual level of computational chemistry being carried out in Japan, China and Korea. It is certainly competitive (if not better than) work presented at recent European conferences.

Okazaki is an interesting city with a mix of old and new. The conference was held in a modern convention centre adjacent to the highly technical "Institutes of Molecular Science", yet only 100 metres away was a beautiful shrine with its wooden walls and thatched roof dating back to the late 17<sup>th</sup> century. Early morning runs past peaceful temples with large 1m bells being rung by priests were contrasted with the noisy pachinko (pin-ball parlours). Unfortunately I arrived too late for the cherry blossoms (early May) but made up for this with a visit to the stunning castle at Nagoya, complete with its museum of Darth-Vader-like Samurai armour.

It is hard to get away from all the people in Japan - central Honshu is certainly a built-up part of the country. I was amused at the crowds of people at Nagoya airport on Sunday morning when I left. Waiting in line with 600 other people in front of you (I counted them!) to pass through security is an experience - I have to say that the Japanese were very efficient and friendly about it all.

The invited speakers were well-looked after and we were treated to a splendid Japanese banquet on Friday evening where I ate more Japanese dishes than my guidebook had names for. Okazaki is renowned for its local variety of sake, so of course we had to sample it (repeatedly).

My invited talk presented the work of **Alison Magill** and her recent research in the pKa area. Despite being the penultimate talk of the conference nearly all the delegates were still there and there was much interest in Alison's work. The conference provided genuine opportunities for discussion and collaboration and I made many new Asian contacts. The Asians certainly felt that this conference was a major step forward in bringing their countries together. The second APACTC conference will be held in Bangkok in May 2005.



## APPITA

*By David Vercoe*

The 58<sup>th</sup> Appita Annual Conference and Exhibition was held 19<sup>th</sup> to 20<sup>th</sup> April in the Nation's capital of Canberra. This year **Dr Karen Stack**, **David Vercoe** and **Doug McLean** represented the pulp and paper research group. The conference enables people from the pulp and paper industry to come and hear a range of papers covering aspects of forestry, pulping, papermaking, environmental and managing issues. Three parallel sessions were run consisting of technical papers with a forum also run each day on different topics with over 280 delegates from all over the world attending. An exhibition is also held in which suppliers to the industry can display their latest products and services.

The three talks presented by our representatives with David's and Doug's papers being recognized in the top three of the conference. We all attended a great social evening at Questacon where we were all reminded how much 'fun' science can be (especially when there are free drinks). After Questacon, Orica chemical company took a few of us out for a few more drinks with our own little Canberran buddy Adele Wilson. The conference ended on the Wednesday night with a formal

dinner with an exciting show of Acrobatics from past, present and future Olympians (one girl was only four years old training for 2016!!!)

### ***THANKS TO SEMINAR SPEAKERS***

**Professor Michael Bruce**, Angas Professor of Chemistry, University of Adelaide  
"Adventures in Adelaide - Three Decades of Organometallics"

**Professor David Buckingham**, Cambridge University, "The Hydrogen Bond"

**Professor Michael Novac**, Miami University, Ohio  
"Chemistry of Nitrenium Ions Generated from Food-Derived Heterocyclic Amine Carcinogens"

**Dr Andreas Fischbach**, Technische Universität München  
"Lanthanide Alkylaluminum Complexes in Ziegler Catalysts"

**Dr Malcolm McLeod**, University of Sydney, "Conquering Catalysis for Contemporary Chemistry"

### ***Honours Introductory Seminars***

**Brendon Gourlay**, "New Synthetic Technology For The Synthesis of Bicyclic Alkaloids"

**Roderick Jones**, "Novel Heck Catalysts Containing Heteroleptic N/S Ligands"

**Eli Marshall**, "pH Determination by Ion Chromatography" (final seminar)

**Damien Viney**, "What's in the Water? The Separation and Characterisation of Pulp and Paper Wastewater Effluents"

**Lynsey Maher**, "Interactions Between Wood Resins and Fixatives"

**David Schaller**, "Separation of Drugs and Metabolites in Biological Fluids Performed by In-line Coupled SPE-CE"

**Damien Stringer**, "Trans-dioxaporphyrinogen Stabilised Lanthanide Imide Complexes"

**Bryce Lockhart-Gillett**, "Ruthenium Chalcogenide Clusters, the NLO Material Revolution?"

**Sarah Kellaway**, "Relating Antarctic Sediment Contaminant Levels to DGT Sampler Uptake"

### ***RACI TRIVIA NIGHT***

*by Damien Stringer*

The annual RACI Chemistry quiz night was recently held on 14 May. The prestigious title of quiz champions was awarded to the Dave<sup>2</sup> team, (Dave Graham and Vercoe, Alison Magill, Sarah Vercoe, Rose Guijt, and Kerry Haddad) who won despite the distractions of the Adelaide v Essendon football match on their personal TV! Special mention to Dave Vercoe who somehow managed to pull himself out of the depths of a wooden spoon winning team in 2003 to win the big one this year!

14 teams were up for the challenge, which was about the limit of the tea room's capacity! The night was hosted by Roderick Jones, Liegh Dahlenburg and Lynsey Maher, with Dave<sup>2</sup> winning by a single point from "The Organics" who graciously accepted their defeat .

Overall, the night was an enjoyable success, with plenty of pizza consumed and grey matter squeezed! The questions were pooled from several areas and stretched everyone's general (and not so!) knowledge.

Special thanks must go to the RACI and Chem. Club for supporting the event.

See you all next year!

### ***CHEMISTRY TRIUMPHS ON THE SOCCER FIELD***

*by Bryce Lockhart-Gillet*

Last Friday (14 May) saw Chemistry maintain their dominance on the soccer field defeating Maths & Physics 2 – 1. Despite the latter's best attempts to stack their side with an excess of players

(some of which were alleged to play for the state), the pure class of the Chemistry side reigned supreme.

Goals were scored by Adam Jones (Chemistry 3<sup>rd</sup> year), and Phil Zakaria (ACROSS postdoc), a lucky deflection off the post resulted in Maths & Physics' solitary goal.

Special mention goes out to the two Chemistry goal keepers, Marc Guijt and David Schaller.

A good team effort by everyone!

## **CHEM CLUB ACTIVITIES**

*by Damien Stringer*

Go the Tigers!

Well, that appeared to be a reasonable statement following the Chem Club's, first-ever BIG screen footy showing for the first round of the AFL. A good night for those who attended, we have been considering a second showing of something on the big screens, and we are open to suggestions!

Since the last edition of *ChemNews*, we have also held our annual AGM/BBQ, which was also a great night.

Office bearers were elected/delegated as follows:

President:	Roderick Jones
Vice President:	Bryce Lockhart-Gillet
Treasurer:	Brendon Gourlay
Secretary:	Damien Stringer

Due to insufficient interest, the Murder Mystery has been postponed until next semester, we hope we can get more interest in this event as its always good for a laugh.

The cocktail party is to be held on the 28<sup>th</sup> May, a formal affair with a number of cocktails for \$20 for members. Should be a great night!  
See you all there!



### **Dancing chemist visits from Japan – by Doug M<sup>c</sup>Lean**

Chisato Obara returned to Hobart after she completed her Masters in Chemistry at Hokkaido University in Sapporo, Japan. Chisato had previously spent a year working in the ACROSS group. This visit focused on ethanolic and Philadelphian research.

We wish Chisato all the best with her English courses Brisbane and her employment with Fuji Film's research group in Honshu, Japan.

Thank you for your contributions for this issue of *ChemNews*.  
The next *ChemNews* will be issued on Friday, 30 July 2004  
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